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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,590	10/15/2001	Patrick Agnese	209892US2PCT	5899

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EXAMINER	
HU, SHOUXIANG	

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/869,590	AGNESE, PATRICK	
	Examiner	Art Unit	
	Shouxiang Hu	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-21* is/are pending in the application.

4a) Of the above claim(s) *20 and 21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-18* is/are rejected.

7)☒ Claim(s) *19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 October 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/17/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 20 and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper filed on November 19, 2004.

Drawings

2. The drawings are objected to because the following informalities and/or defects:

The position for element 3b appears to be inconsistent in Figs. 1 and 2.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities and/or defects:

Relevant sub-title for Summary section is missing.

On pages 7 and 8, the term of "side 1" should read as: --side I--.

Appropriate correction is required.

Claim Objections

4. Claims 12-19 are objected to because of the following informalities and/or defects:

Claim 12 recites the subject mattes of "measuring the rise in temperature", but fails to clarify where the temperature is measured.

In addition, claim 12 recites the subject matter of "electrically insulted from the load resistance of the antenna"; but it is not clear how a resistance, rather than a resistor or a resistance load, could be electrically insulated from the recited thermometric component, as even an thin insulating film can still have a measurable resistance.

Claim 14 recites the terms of first and second metal components and first and second metal arms, but fails to definitely clarify their relationships.

In claim 15, the term of "which comprises" should read as: --forming--.

In claim 17, further clarification is needed for the term of "the diode of which".

Claims 18 and 19 fail to definitely clarify the relationships between the terms of first and second detectors, and the relationship between the terms of "the diode", "a diode", "diode" and "second diode".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 12 and 16, as being best understood in view of the claim objections above, are rejected under 35 U.S.C. 102(e) as being anticipate by Osterman (US 6,292,140).

Osterman discloses a bolometric detector (Figs. 2a and 3a), comprising: a receiving antenna (including the thin film antenna and the resistive termination) having a load resistance, a resistance load formed from the load resistance (including the naturally existing impedance of the thin film antenna portion, and/or the resistive terminal portion of the antenna), which naturally converting EM wave power into heating power; and, a thermometric component (thermometer) electrically insolated from the antenna and for measuring a temperature rise in the vicinity of antenna, which is naturally measured relatively to a reference temperature.

Regarding claim 16, the detector in Osterman is intended for imaging application.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 13-15, 17 and 18, as being best understood in view of the claim objectins above, are rejected under 35 U.S.C. 103(a) as being unpatentable over Osterman in view of Koeder (DE 3333410A1) and/or Jack (US 6,329,655).

The disclosure of Osterman is discussed as applied to claims 12 and 16 above.

Osterman further teaches to form an imager with the EM wave detectors (see the title).

Although Osterman does not expressly disclose that the thermometric component can be formed of a diode over a cavity, and/or that the antenna can comprise two crossed pairs of antenna components. However, one of ordinary skill in the art would readily recognize that each of these features can be desirably formed in an EM wave detector/imager, as evidenced in Koeder and/or Jack. Koeder teaches to form an EM wave detector having a suspended thermometer formed of a diode (2) that naturally improves thermal detection sensitivity. And, Jack teaches to form an EM wave detector (Figs. 2Aand 4) with two crossed pairs of antenna components (12) that can naturally receive EM waves of various polarizations including TE wave and TM waves depends on the polarization(s) of the incident EM waves.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the suspended diode thermometer of Koeder and/or the cross-paired antenna components of Jack into the detector of Osterman, so that an EM wave detector/image with improved thermal detection sensitivity and improved capability to measuring more polarized EM waves would be obtained.

Regarding claim 14, the thermometer in Fig.3a of Osterman is formed on air-bridged structure; thus the resistive termination portion therein would be then naturally readable as an arm connecting each pair of the antenna components in the above collectively taught device. And, it is also noted that it is art known that the resistive termination can be readily formed from a thin metal film.

Regarding claim 15, the antenna can be commonly square-shaped in the art, as further evidenced in Fig. 2A of Jack. And, it is noted that the size of the antenna is an art-recognized parameter of importance subject to routine experimentation and optimization.

Regarding claim 17, it is art known that an imager can be formed with matrix having four or more identical detectors, which would naturally result in the diodes in the above collectively taught individual detectors to be arranged in parallel.

Regarding claim 18, the two cross-paired antenna components in the above collective taught detector/imager would naturally be able to detect a TE wave and a TM wave, provided that the incident EM waves contain the corresponding cross-polarized TE and TM waves.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH
February 2, 2005

SHOUXIANG HU
PRIMARY EXAMINER